Primary Science

Resource Pack for Year 5 and Year 6

This Primary Science Resource Pack includes resources (topics) from the Year 5 and Year 6 Learning Outcomes.

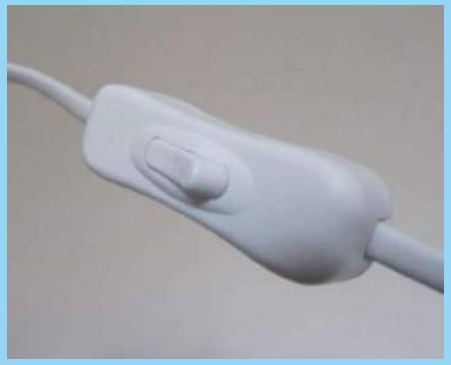
Anemometer	**An instrument used to measure wind speed.**
Thermometer	An instrument used to measure temperature.
Wind Vane	An instrument used to show the direction of the wind.
Barometer	An instrument used to measure atmospheric pressure – high and low pressure.
Rain Gauge	An instrument used to measure rainfall.

Switches

What switches can you recognise from home?

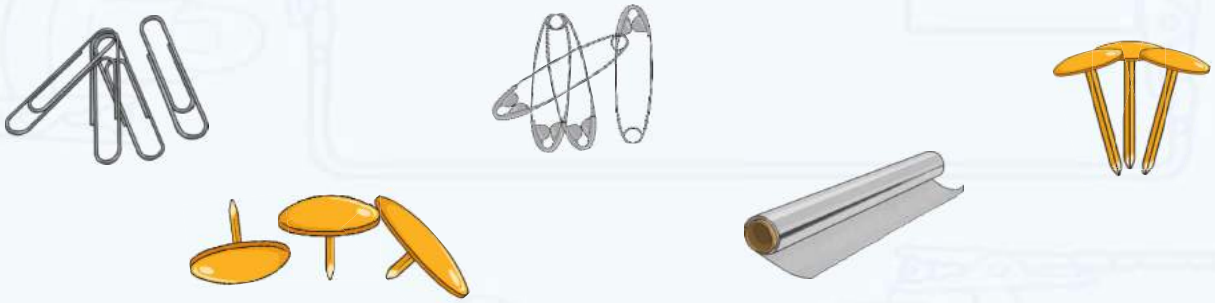




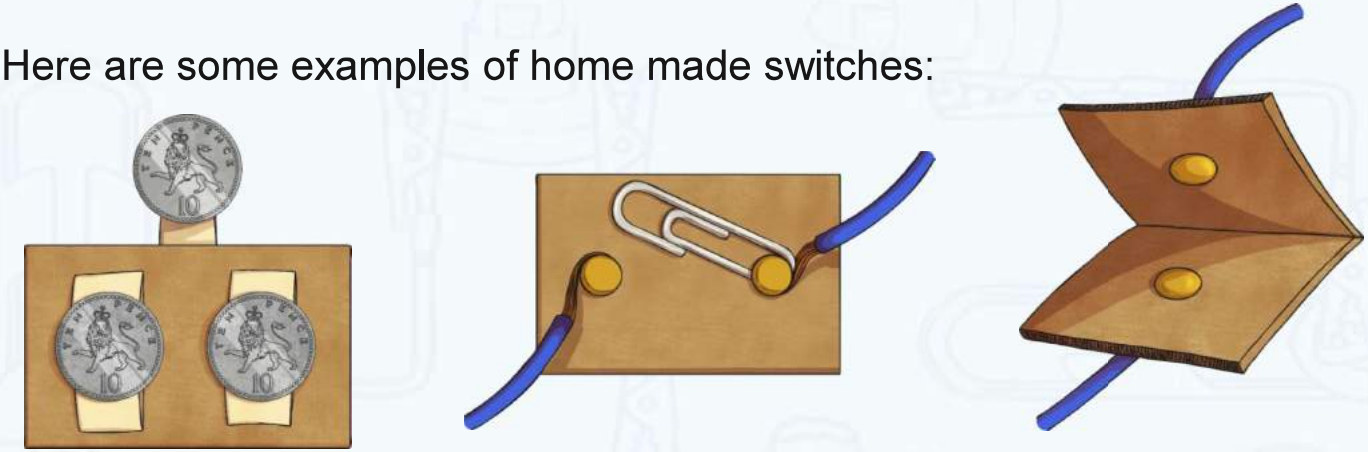


Make a Simple Switch

Will any of these items help?



Here are some examples of home made switches:



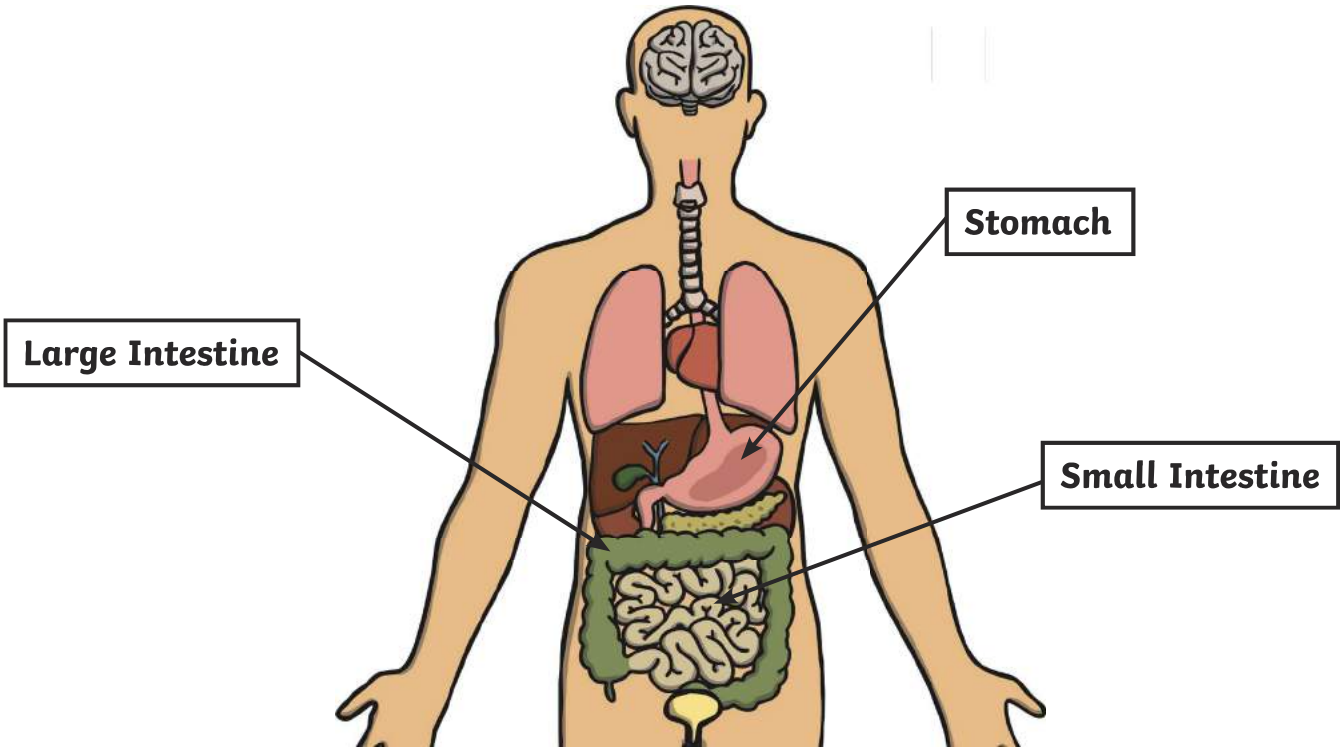
Digestive System Investigation

You will need:

- Wheat biscuits cereal
- Orange juice
- A small, clear plastic bag
- A pair of tights
- A metal dish
- Two paper cups

Instructions

1. Place several wheat biscuits into the plastic bag (stomach).
2. Pour a small cup of orange juice (the stomach acids) and some water (saliva) into the bag.
3. Squeeze the bag until the contents are mushy. This represents food being broken down in the stomach.
4. Carefully, pour the contents of the 'stomach' into one leg of the tights (small intestine).
5. Squeeze the tights over the dish. The liquid that pours out represents the nutrients our body needs.
6. The leftover food in the tights is the waste that is no longer needed by the body. Cut a hole in the bottom of a paper cup (the large intestine) and place the solidified waste inside.
7. Insert another cup on top of the waste. Use it to push the waste through the hole in the bottom of the first cup. Your body has now got rid of what it does not need!



Questions:

1. How can you tell if a substance has dissolved? Use the words transparent and opaque.
2. Draw a labelled particle diagram of a salt water solution.
3. What is the solvent being used in your investigation?
4. What does soluble and insoluble mean?
5. Copy and label the diagram below.
   Use with the words; solution, solute, solvent.

Substance/solute	Prediction	Observations	Result
	Will it dissolve? Y or N	What does the solution look like?	Did it dissolve? Y or N
salt			
sugar			
flour			
chalk			
sand			
fruit cordial			
coffee			
pepper			
gloss paint			
jelly cube			

Sort the pictures of materials into natural and man-made materials.

Making a Periscope

Follow these instructions to make your own working periscope.

You will need:

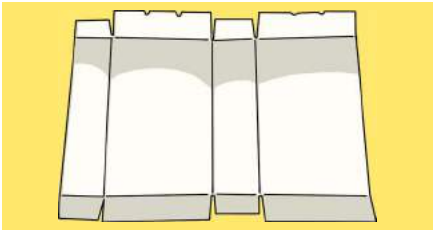
A cereal box

A pair of scissors

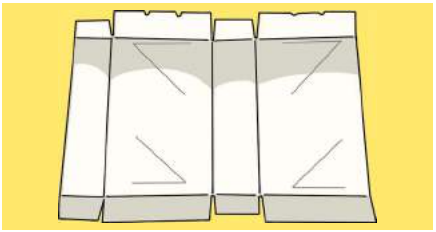
Two safety mirrors

Sticky tape

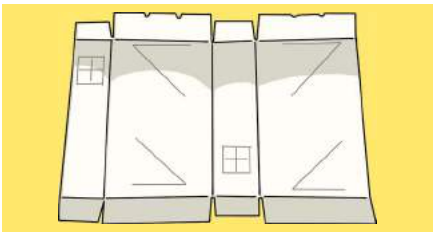
Step 1
Carefully open up your cereal box and lay it out flat.



Step 2
Stick the 'mirror' templates in the centre of the wide panels of the cereal box.

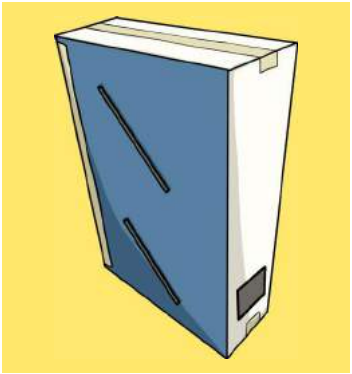


Step 3
Stick the 'window' templates in the centre of the narrow panels of the cereal box.

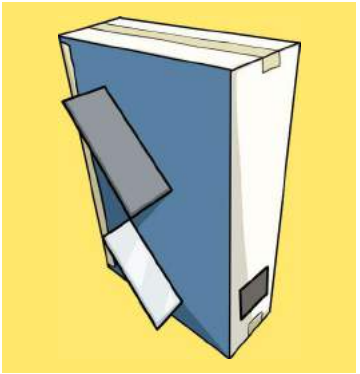


Step 4
Carefully cut along the lines for the mirrors, and cut out the windows.

Step 5
Use sticky tape to stick the cereal box back together.



Step 6
Push the mirrors through the mirror lines you cut, and out the other side of the box so they are held firmly in place.



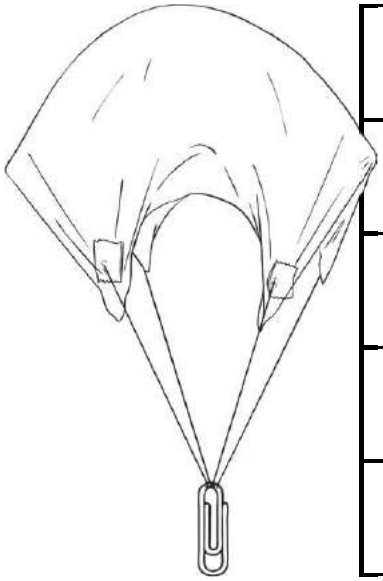
You should now be able to use your periscope to look around or over things! Look through one viewing window to see an image from the other window.

Perfect Parachutes

To investigate the effects of air resistance.

You have been asked to redesign a parachute for the Super Skydiving Company. You will make three parachutes and see which type of parachute falls the slowest. Which variable will you change about your parachute each time? Which variable will you measure?

Variable that I will change about my parachute each time:



Size of parachute	
Height of drop	
Shape of parachute	
Object attached to parachute	
Length of string to attach object to parachute	

Variable that I will measure: _____

Why is it important to keep the other variables the same?

_____

_____

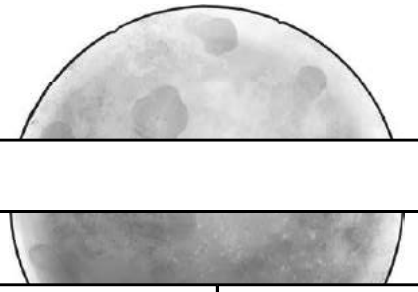
I think that the parachute that will fall the slowest will be the _____

_____

I think this parachute will have the most air resistance because _____

_____

My Moon Diary



Time at which Moon is checked each night:	Month of diary commencement:

Shade the circle so that the section of the Moon that is illuminated remains. Draw clouds over it if you can't see it!

Date: _____	Date: _____	Date: _____	Date: _____	Date: _____	Date: _____	Date: _____
Date: _____	Date: _____	Date: _____	Date: _____	Date: _____	Date: _____	Date: _____
Date: _____	Date: _____	Date: _____	Date: _____	Date: _____	Date: _____	Date: _____
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Rainbow Bubble Snakes

Resources required:
An empty water bottle; a small piece of fabric e.g. a towel or an old sock; liquid soap; water; food colouring; rubber band; scissors; glycerine (optional).

Description of investigation:
1) To make the bubble solution pour 2 to 3 tablespoons of liquid soap in a bowl and mix with 250ml water. You may add glycerine to have stronger, longer lasting bubbles. Stir well.
2) Cut the bottom of an empty, clean plastic bottle using scissors.
3) Cover the cut opening with the fabric and secure with a rubber band.
4) Add a few drops of food colouring to the fabric at the end of the bottle.
5) Dip the fabric covered end in the bubble solution.
6) Blow into the mouth of the plastic bottle.

Investigation Questions:
- ✓ What shape are bubbles?
- ✓ Does blowing hard or soft effect the shape of bubbles formed?
- ✓ How are so many bubbles formed at once?

More info:
https://www.stevespanglerscience.com/lab/experiments/bubble-snakes/

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St. Patrick's Day Leprechaun Trap

Suggested resources:

LEGO blocks (or similar); kitchen or toilet paper roll; boxes or containers of different sizes e.g. shoe box or cereal box or preserves tin or egg cartons; recycled paper; string; lollipop sticks; sticks or toothpicks; scissors; glue; measuring tape; decorations (pipe cleaners, gold coins, glitters; Leprechaun bait e.g. rainbow skittles, Leprechaun black pot, cupcake cases, ribbon etc.)

Description of investigation:

1) Research different ideas for Leprechaun traps to decide on the type of trap you want to make.
2) Consider special trap items such as homemade ladder, small black pot, gold coins/skittles/luck charms/rainbows/shamrock cut-outs/confetti/glitters.
3) Discuss and plan the Leprechaun trap. You may use the Leprechaun Trap planning sheet provided. Use knowledge on levers and pulleys to help you design the trap.
4) Choose the resources required and get started!

Investigation Question:

✓ How will the Leprechaun get trapped? (a gate that closes, a hole to fall into, a stick that breaks, a box that falls on another etc.)

More info:

https://littlebinsforlittlehands.com/leprechaun-trap-kit-for-kids-stem-activity/

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Catch A Rainbow

Resources required:
Red, blue and yellow food colouring (pepper may also be used); 1 cup milk; dish soap; shallow bowl; Catch a Rainbow printable activity sheet (optional); The Colour Wheel.

Description of investigation:
1) Pour 1 cup of milk into the bowl (whole milk is best).
2) Add 3 drops of red food colour to one edge of the bowl.
   1/3 of the way away add 3 drops of blue food colour.
   1/3 of the way away add 3 drops of yellow food colour.

Important: Don't mix the colours or shake the bowl.

4) Squeeze a drop of dish soap on a cotton bud and place the tip gently in the centre of the bowl.

Investigation Questions:
- ✓ What do you observe?
- ✓ Why did the colours mix when the soapy cotton bud was introduced?
- ✓ What happens if more soap is added to the mixture?

More info:
https://www.kidzone.ws/science/rainbow.htm

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Wind Chimes

Resources required:

Plastic jar lid/cap or piece of wood or other reusable items (as a base to hang the chimes from), string, metal object such as bells or metal can, objects for the chimes made of the same material or made of different materials such as wood or plastic.

Description of investigation:

1) Collect different items around the house including some wooden objects. You may also include natural objects such as twigs, sticks, stones, shells.
2) Investigate the sound produced by each item by hitting it gently against a surface. Observe the sound produced.
3) Research different chimes for more ideas, then decide on which items to be included as a chime.
4) Tie the ends of the chosen items to the base.
5) Now tie the metal can or the bell such that it produces a sound when the objects hit it.
6) Your chime is ready. Hang your chime where it will catch the wind.

Investigation Questions:

- ✓ How is sound produced?
- ✓ Do all objects produce the same sound?

More info:
https://sawshub.com/woodworking-for-kids-easy-projects/

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Lava Lamp

Resources required:
Vegetable oil; water; food colouring (any colour); Alka Seltzer tablets (or any effervescent tablet), container e.g. jar or empty plastic bottle.

Description of investigation:

1) Fill half a cup with water and add 3-4 drops of food colouring.
2) Break one Alka Seltzer tablet into 2 or 3 pieces.
3) Fill up the container, about 3/4 full, with vegetable oil. Then pour in the coloured water until the liquid in the cup has reached a level 3-5 cm from the top.
4) Wait for the liquids to settle.
5) Add a piece of Alka Seltzer tablet to the cup.
6) Observe what happens.

Investigation Questions:

- ✓ What did you notice as soon as you added the coloured water to the oil? Why does this happen?
- ✓ Why does the oil remain clear and not coloured?

More info:
https://funlearningforkids.com/super-cool-lava-lamp-experiment/

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Rain cloud in a Jar

Resources required:
Printable recording sheets (last page); a large jar; shaving cream (not a gel version); gel food colouring or washable watercolours; pipettes or droppers.

Description of investigation:
1) In a small cup, mix the food colouring (2-3 different colours) with some water.
2) Fill the large jar with water until it is about 3/4 full.
3) Place the jar and the cups of coloured water on the table. Place a pipette in each cup of coloured water.
4) Right before doing the experiment, spray a generous amount of shaving cream in the jar until it is just a small bit above the top of the jar.
5) Ask the children to pick up some coloured water with a pipette and squirt it on top of the shaving cream cloud. Repeat this step one or two more times.

Investigation Questions:
- ✓ What do you think will happen?
- ✓ Pay close attention! What is happening below the cloud of shaving foam?
- ✓ Why is the coloured water not staying trapped in the cloud of foam?
- ✓ Can you explain what has happened so far?

More info:
https://funlearningforkids.com/rain-cloud-jar-science-experiment/

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